CLAIMS

What is claimed is:

1. A method of making an electrode structure for use in a double layer capacitor, comprising the steps of:

preparing a first slurry that includes conducting carbon powder and a binder;

applying the first slurry to a current collector plate;

drying the applied first slurry to form a primary coating;

preparing a second slurry that includes activated carbon powder, a solvent and a binder; and

applying the second slurry to the primary coating.

2. A method in accordance with claim 1, wherein an amount of the conducting carbon powder in the first slurry falls in the range of 25 to 95 percent-by-weight.

3. A method in accordance with claim 1, wherein the first slurry is free of activated carbon.

4. A method in accordance with claim 1, wherein an amount of the activated carbon powder in the second slurry falls in the range of 50 to 98 percent-by-weight.

5. A method in accordance with claim 1, wherein the second slurry further comprises conducting carbon powder.

6. A method in accordance with claim 1, wh r in the step of preparing a second slurry comprises

the steps of:

mixing the binder and the solvent;

stirring the mixed binder and solvent;

adding the activated carbon powder to the mixed binder and solvent; and

mixing the activated carbon powder into the mixed binder and solvent.

7. A method in accordance with claim 6, wherein the step of mixing the activated carbon powders into the mixed binder and solvent comprises the step of:

initially mixing slowly to allow the carbon powders to get wet;

mixing with an automatic mixer for approximately 10 minutes; and

shaking vigorously for approximately 30 seconds.

8. A method in accordance with claim 1, wherein the step of applying the first slurry to a current collector plate comprises the step of:

applying the first slurry to the current collector plate with a metering rod.

9. A method in accordance with claim 1, wherein the step of drying the applied first slurry to form a primary coating comprises the step of:

curing the applied first slurry in an oven.

10. A double layer capacitor comprising:

a first electrode structure that includes a first current collector foil, a first primary coating formed on the first current collector foil, and a first secondary coating formed on the first primary coating;

a second electrode structure that includes a second current collector foil, a second primary coating formed on the second current collector foil, and a second

secondary coating formed on the second primary coating, wherein the first and second primary coatings include conducting carbon powder and the first and second secondary coatings include activated carbon powder;

a porous separator positioned between the first and second electrodes structures; and

means for saturating the porous separator and the first and second electrodes structures in a prescribed electrolytic solution.

11. A double layer capacitor in accordance with claim 10, further comprising:

a first capacitor terminal; and

a second capacitor terminal;

wherein a portion of the first current collector foil is coupled to the first capacitor terminal and a portion of the second current collector foil is coupled to the second capacitor terminal.

12. A double layer capacitor in accordance with claim 10, wherein an amount of the conducting carbon powder in the first and second primary coatings falls in the range of 25 to 95 percent-by-weight.

13. A double layer capacitor in accordance with claim 10, wherein the first and second primary coatings are free of activated carbon.

14. A double layer capacitor in accordance with claim 10, wherein an amount of the activated carbon powder in the first and second secondary coatings falls in the range of 50 to 98 percent-by-weight.

15. A double layer capacitor in accordance with claim 10, wherein the first and second secondary coatings further comprise conducting carbon powder.

16. A double layer capacitor in accordance with claim 10, wherein the first and second electrode structures each comprise a stack of a plurality of individual electrodes having their respective current collector foils connected in parallel, and further wherein the individual electrodes of one stack are interleaved with the individual electrodes of another stack, the porous separator preventing electrical shorting between the interleaved individual electrodes.